APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
WOO, ISAAC M

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.		Applicant(s)	
Office Action Summary		09/778,881		WONG, TIN CHEUNG	
		Examiner		Art Unit	
		Isaac M Woo		2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 February 2001</u> .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-7</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-7</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virgil

et al (U.S. Patent No. 5,493,670, hereinafter, "Virgil").

With respect to claim 1, Virgil discloses the method in a computer automated

data processing system for, see (col. 1, lines 5-10), identification, management and

retrieval of engineering drawings in digital format (col. 2, lines 5-15) wherein all the

digital data is analysed by the central processing unit in accordance with predefined

algorithms (col. 1, lines 65-67 to col. 2, lines 1-24) to identify individual engineering

drawings (col. 4, lines 15-67 to col. 1-5) and specific information contained within each

the drawing and wherein the specific information (col. 3, lines 32-67 to col. 4, lines 1-67)

may be stored in accordance with predefined criteria in a suitable storage means (col. 1,

lines 65-67 to col. 2, lines 1-24) and wherein each drawing may be identified and

located to search the storage means against the predefined criteria, see (col. 3, lines 3-

67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67). Virgil does not explicitly

disclose an appropriate search engine. However, Virgil discloses the SQL (Structured

Query Language), (FIG. 3, FIG. 4b), which is an industry-standard language for

creating, updating and, querying (searching) relational database management systems.

Therefore, it would have been obvious a person having ordinary skill in the art the time

invention was made to include the appropriate search engine (SQL) into the system of

Virgil to query on database. The first SQL standard, in 1986, provided basic language

constructs for defining and manipulating tables of data on database; a revision in 1989

added language extensions for referential integrity and generalized integrity constraints.

Another revision in 1992 provided facilities for schema manipulation and data

administration, as well as substantial enhancements for data definition and data

manipulation for searching. Thus, in order to get specific information or data from

database, the SQL is commonly used to retrieve the information or data as the search

engine.

With respect to claim 2, Virgil discloses that the digital data is analysed by

the central processing unit in accordance with predefined algorithms to identifying the

boundary of each individual engineering drawing, see (col. 4, lines 26-67 to col. 5, lines

1-65, col. 9, lines 57-67 to col. 10, lines 1-50).

With respect to claim 3, Virgil discloses that the digital data is analysed by the

central processing unit in accordance with predefined algorithms to identify textual

information contained within each individual engineering drawing, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

With respect to claim 4, Virgil discloses that the digital data is analysed by the central processing unit in accordance with predefined algorithms to identify a series of discrete boxes in an orderly arrangement containing textual content, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67).

With respect to claim 5, Virgil discloses that the textual information contained within each engineering drawing may be stored in accordance with predefined criteria in a suitable storage means to enable the engineering drawing to be identified by reference to the textual information, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

With respect to claim 6, Virgil discloses that the central processing unit analyses the textual information contained within each individual text box in accordance with predefined algorithms to identify predefined keywords within the text boxes and wherein if such keywords are identified within the text boxes the central processing unit further analyses the data contained within the text box to ascertain whether further textual information is contained within the text box and wherein if further textual information is located within the text box the further textual information contained within each

individual text box may be stored in accordance with predefined criteria in a suitable

storage means to enable the engineering drawing to be identified by reference to the

textual information, see (col. 3, lines 3-67 to col. 4, lines 1-67 to col. 5, lines 1-67 to col.

6, lines 1-67, col. 5, lines 5-67 to col. 6, lines 1-60).

With respect to claim 7, Virgil discloses that the engineering drawings stored in

the storage means may be located, retrieved and displayed on a suitable display means

by reference to the exact textual information sought and wherein the textual information

maybe readily identified by suitable means such as highlighting, see (col. 3, lines 3-67

to col. 4, lines 1-67 to col. 5, lines 1-67 to col. 6, lines 1-67, col. 5, lines 5-67 to col. 6,

lines 1-60).

Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Heilper et al (U.S. Patent No. 6,014,450) discloses the system for address indicia

on digitized images of mail pieces by dividing the mail piece images into blocks;

identifying rows of blocks that are adjacent along a first direction and that have similar

defined image features by comparing such image features within adjacent blocks;

assembling at least some of the identified rows of blocks that are adjacent along a

second direction perpendicular to the first direction into address block candidate

regions; and selecting the address block by scoring the various address block candidate

regions on the basis of defined criteria. The criteria initially score the candidate regions

based on closeness to the center of the rectangle and then reduce this initial score if an

edge of the region is close to an edge of the image, the region contains a small or very

high number of text rows, or the aspect ratio between the width and height of the region

is high. This provides an Address Block Location (ABL) technique which is capable of

being implemented for real time operation on presently available general purpose

computers.

Chhabra et al (U.S. Patent No. 5,923,782) discloses the system for detecting

horizontal and vertical lines of an encoded run length image to identify cells of the

image that are formed by the lines. Initially, the method comprises the steps of filtering

excess details, such as text, from the image and grouping a portion of the image for

analysis. A top profile of the image is generated and, then, points along the top profile

are determined where substantial changes in the profile position occur. A horizontal

section of the top profile which corresponds to a line completely visible from the top is

then extracted from between the points. By repeating the above steps, each horizontal

line of the image is detected and extracted from the image. In addition, in order to detect

the vertical lines of the image, the image is simply rotated 90.degree. and processed

with the vertical lines being positioned horizontally. By identifying the horizontal and

vertical lines of the image, the cells of the original image may be identified, and the

contents of each cell may be processed by optical character recognition techniques and

the like.

Syeda-Mahmood disclose the system for image indexing for the domain of

technical manual documents depicting line drawing images of physical equipment. Such

line drawings are often associated with text labels that indicate references to component

parts in an associated table. The indexing system locates regions containing a machine

part in relevant pages of the manual in response to a query describing the part. The

query supplied by the user is a textual description of the machine part from which an

associated geometric description of the object is retrieved. The indexing mechanism

includes two stages, i.e., selection and recognition. The selection phase involves

isolating relevant images from the document database using a combination to textual

and visual processing and indicating the appropriate regions within those images that

are likely to contain the queried machine part. Model-based object recognition then

confirms the presence of the part at that location by finding a match of features between

the part and the model using a 3D model description associated with the textual query.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac M Woo whose telephone number is (703) 305-0081. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

IMW
February 6, 2003

SHAHID AL ALAM
PATENT EXAMINER